



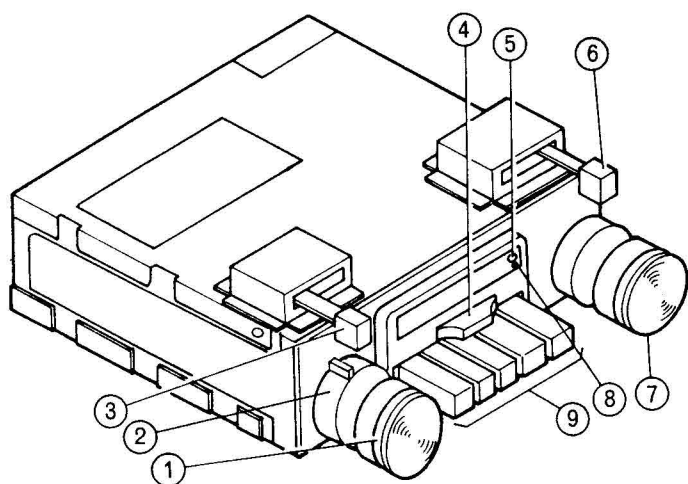
# HITACHI

# KMS-4001ZB

## SERVICE MANUAL

No. 1287

CAR MODEL	DATSUN 280ZX (S130)
FRONT SPEAKER	B-161
REAR SPEAKER	B-171
BALANCER	CL-4001ZB
DYNA BOOSTER	DB-41Z
WIDE STEREO UNIT	WS-4001Z
DIN CORD	DIN-4001Z



### KEY TO ILLUSTRATIONS

- ① POWER SWITCH/  
VOLUME CONTROL
- ② WIDE STEREO SELECTOR
- ③ BASS CONTROL
- ④ FM/AM SELECTOR
- ⑤ ANTENNA TRIMMER
- ⑥ TREBLE CONTROL
- ⑦ TUNING CONTROL
- ⑧ FM STEREO INDICATOR
- ⑨ TUNING SELECTOR

### SPECIFICATIONS

Circuit System : FM/AM 2 band superheterodyne  
Tuning Range : FM : 88~108 MHz  
AM : 530~1605 kHz  
Intermediate Frequency : FM : 10.7 MHz  
AM : 455 kHz  
Sensitivity : FM : 10 dB (Practical)  
AM : 25 dB (Practical)  
Antenna : Car antenna

Semi-conductors : 12 IC's, 1 FET, 2 Transistors, 10 Diodes  
Power Supply : 12V (Car battery), negative ground  
Power Consumption : 1.3W  
Speaker : Front : 8 ohms, P.M. 10 cm  
Rear : 8 ohms, P.M. 12 cm  
Output : 8W (T.H.D 10%) at 14.4V  
Dimensions : 2-11/16" (H)×6-5/16" (W)×5-7/8" (D)  
(6.9×16×15)cm  
Weight : 3 lbs. 12 oz. (1.7 kg)

## FM/AM 2-BAND CAR RADIO with FM STEREO

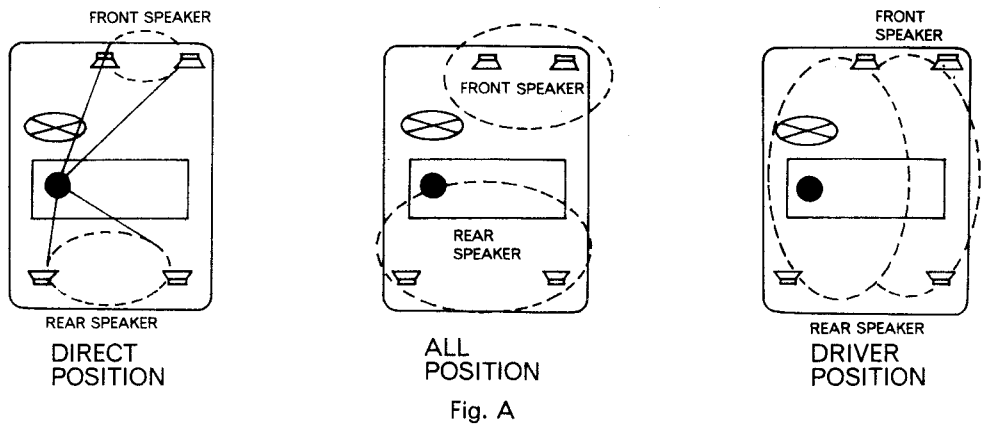
3315

November 1979

EXPLANATION OF WIDE STEREO

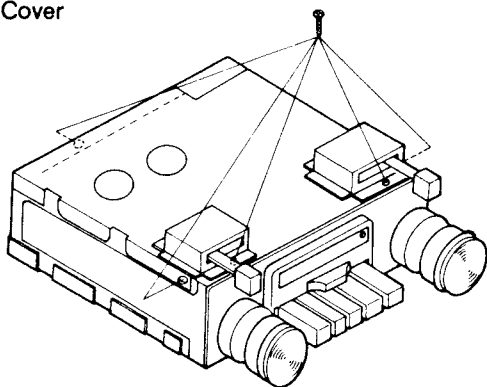
The extent of the sound field can be changed by connecting this unit to the wide stereo unit (WS-4001Z) and changing over the wide stereo selector.

The extent of the sound field when the wide stereo selector is set to each position is shown in Fig. A.

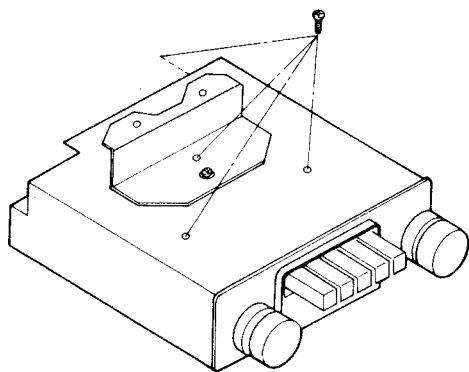


DISASSEMBLY

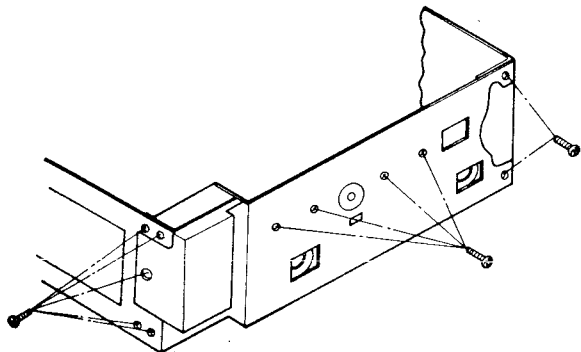
1. Top Cover



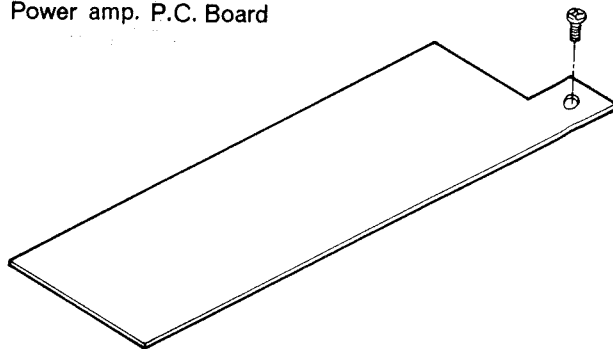
2. Bottom Cover



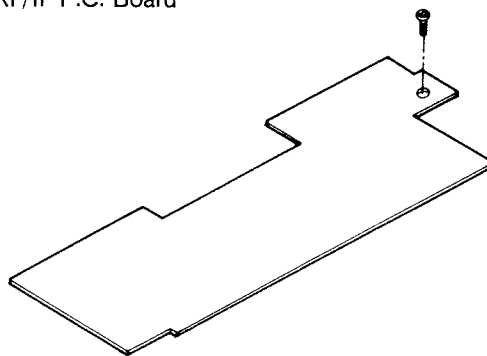
3. Rear Cover



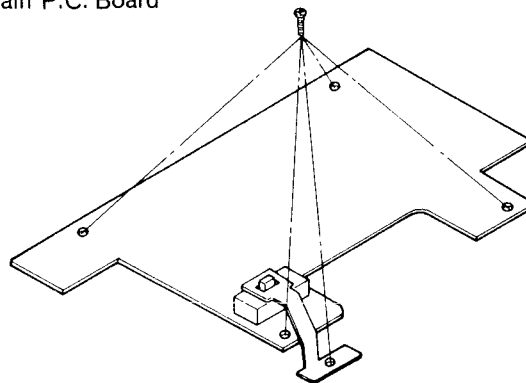
4. Power amp. P.C. Board



5. FM RF/IF P.C. Board

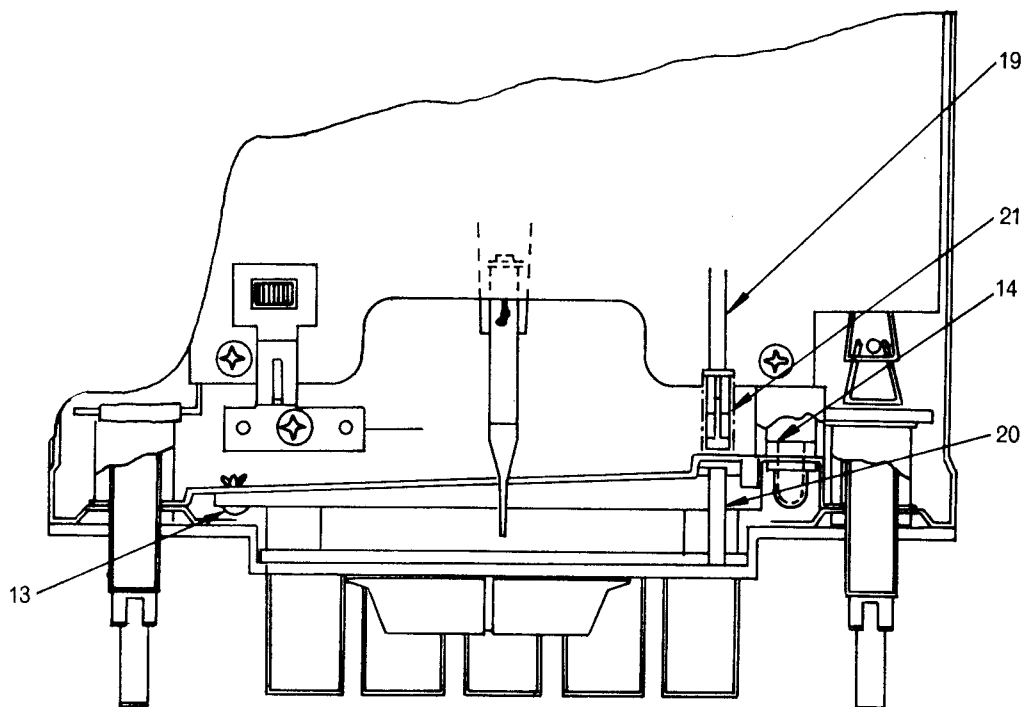


6. Main P.C. Board





SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
FOR ACCESSORIES			MISCELLANEOUS		
	6972942	SPEED NUT	7	7401971	SET BRACKET
	5008552	4 CHANNEL BALANCER	8	6242822	NOSE ESCUTCHEON
	6972741	ESCUTCHEON	9	6474661	FIN SCALE PLATE
	5893075	FP CONNECTOR	10	6295431	SLIDE KNOB
	6055071	CONTROL KNOB	11	6481711	BACK PLATE
	5406338	SPEAKER ASSEMBLY-10CM (B-161)	12	6479511	SCALE PLATE ASSEMBLY
	5406339	SPEAKER ASSEMBLY-12CM (B-171)	13	6714213	NYLON RIVET
1	6295422	SLIDE KNOB (N-2431Z)	14	6575773	COLLAR CAP
2	6294821	KNOB (S) (N-4001ZL)	15	0643135	NUT - 9MMD
3	6294841	KNOB (L) (N-4001ZS)	16	7584201	TUNER SHAFT
4	6298701	KNOB (L) (N-4001ZS (L))	17	6050731	PUSH BUTTON
5	0643135	NUT-9MMD	18	6399814	POINTER
6	0629187	WASHER-9MMD	19	6748212	TRIMMER JOINT
			20	7543631	TRIMMER SHAFT
			21	6310321	SPRING
			22	6750782	FUSE COVER

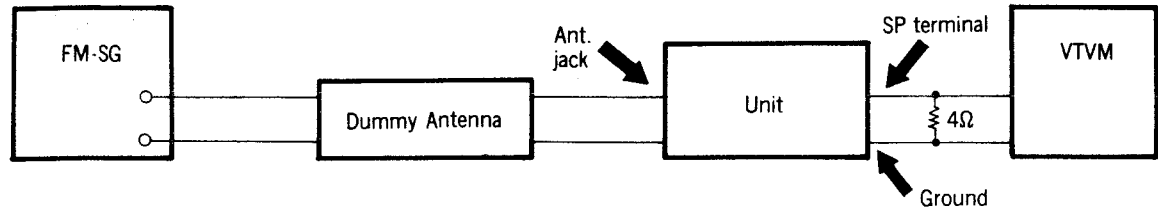


FM RF (Covering & Tracking)

Setting :

- Band change over switch (S602) : FM
  - FM sensitivity (RT201) : Center
  - Treble control (RV401A, B) : Center
- Bass control (RV402A, B) : Center
  - Volume control (RV403A, B) : Max.
  - TRIMMER (CT101, CT102) : Center

Connection :



Adjustment :

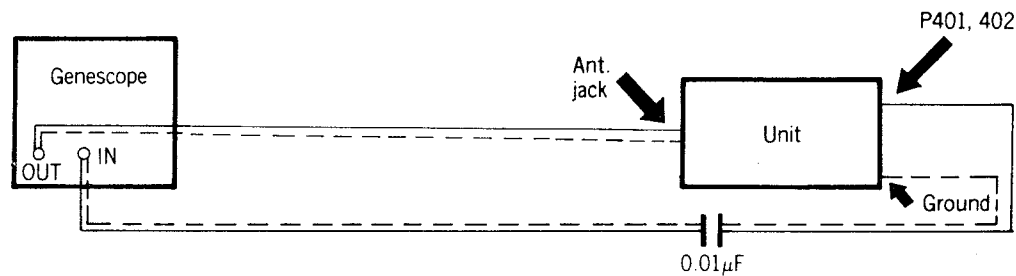
Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	87 MHz	400 Hz 30%	Lowest	CT103	Max.	
2	Repeat 1.						
3	Tracking	98 MHz	400 Hz 30%	98 MHz	CT101 CT102	Max.	
4	Repeat 3.						

AM IF adjustment

Setting :

- Band change over switch (S602) : AM
- AM sensitivity (RT251) : Center

Connection :



Adjustment :

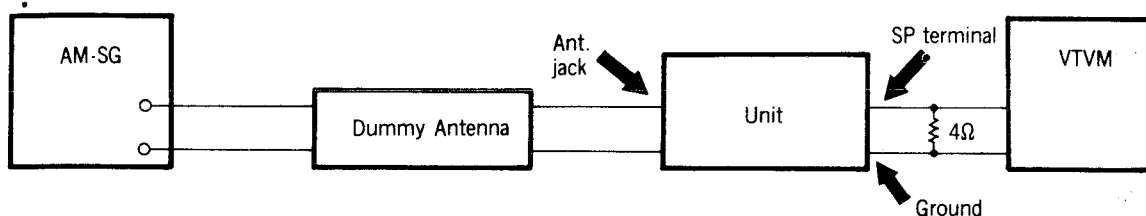
Genescope		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
455 kHz	—	Highest	T152 T251 T252	Max.	—

**AM RF (Covering & Tracking) adjustment**

Setting :

- Band change over switch (S602) : AM
- AM sensitivity (RT251) : Center
- Treble control (RV401A, B) : Center
- Bass control (RV402A, B) : Center
- Volume control (RV403A, B) : Max.
- Antenna trimmer (CT152) : Center

Connection :



Adjustment :

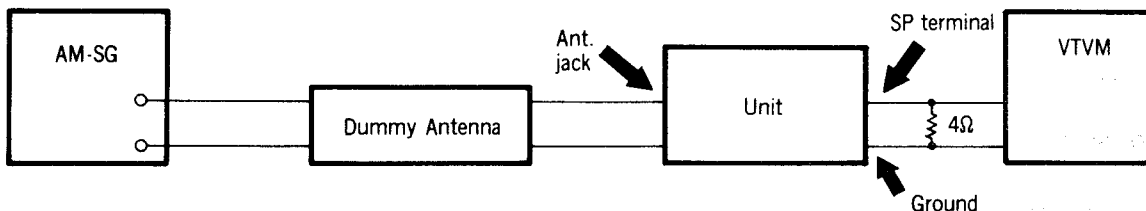
Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	520 kHz	400 Hz 30%	Lowest	T151	Max.	
2		1650 kHz		Highest	CT154		
3	Repeat 1 and 2.						
4	Tracking	1400 kHz	400 Hz 30%	1400 kHz	CT151 CT153	Max.	
5							
6	Repeat 4 and 5.						

**AM Sensitivity adjustment**

Setting :

- Band change over switch (S602) : AM
- Treble control (RV401A, B) : Center
- Bass control (RV402A, B) : Center
- Volume control (RV403A, B) : Max.

Connection :



Adjustment :

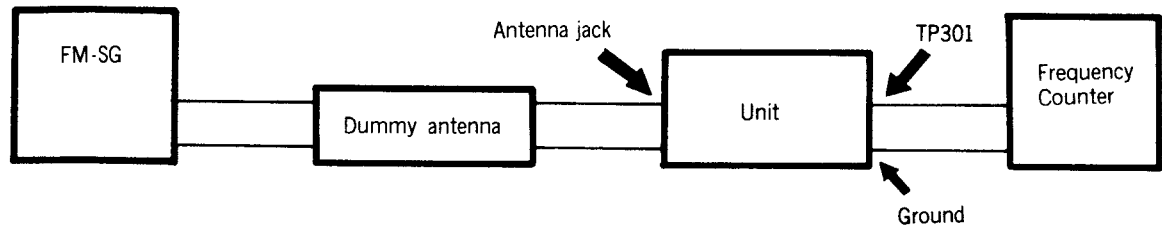
Signal generator		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
1000 kHz	400 Hz 30%	1000 kHz	RT251	15 dB	—

FM MPX (Multiplex) adjustment

Setting :

- Band change over switch (S602) : FM

Connection :



Adjustment :

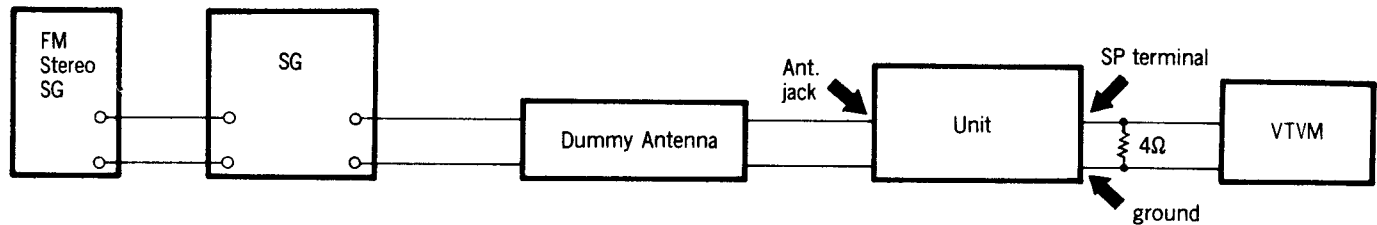
Signal generator	Adjust	Reading	Remarks
98 MHz 74 dB Nonmodulation	RT302	19 kHz ± 100 Hz	—

FM Separation adjustment

Setting :

- Band change over switch (S602) : FM
- Treble control (RV401A, B) : Center
- Bass control (RV402A, B) : Center
- Volume control (RV403A, B) : Max.

Connection :



Adjustment :

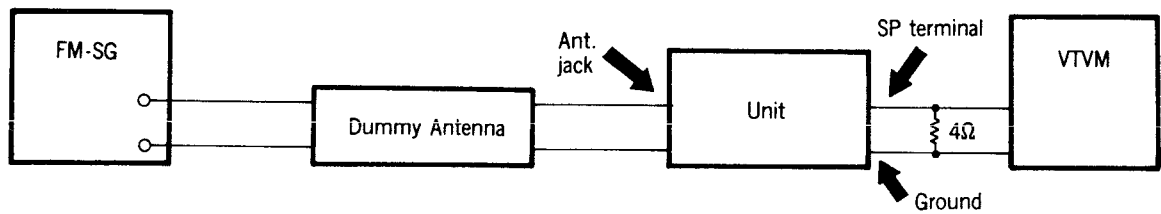
Signal generator		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
98 MHz 74 dB	Pilot : 19 kHz 10% (L + R), (L - R) : 400 Hz 45%	98 MHz	RT301	Min.	1) After feeding in of R channel and pilot signals, adjust RT301 for a minimum L channel output. 2) Optimize RT301 so that the leak level of the L channel signal is equal to that of the R channel signal.

FM Sensitivity adjustment

Setting :

- Band change over switch (S602) : FM
- Treble control (RV401A, B) : Center
- Bass control (RV402A, B) : Center
- Volume control (RV403 A, B) : Max.

Connection :



Adjustment :

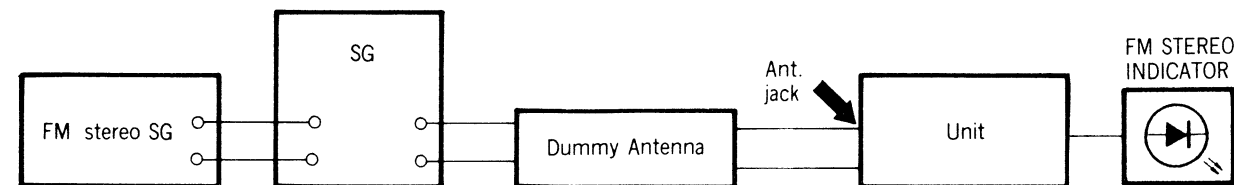
Item	Signal generator		Dial pointer position	Adjust	Reading	Remarks
	Frequency	Modulation				
1	98 MHz 74 dB	400 Hz 30%	98 MHz	VOLUME (RV403A, B)	1.41V	
2	98 MHz 10 dB			RT201	1.41V-3 dB	

#### Automatic Sound Control System adjustment

Setting :

- Band change over switch (S602) : FM

Connection :



Adjustment :

Signal generator		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
98 MHz 33 dB±1 dB	Pilot : 19 kHz 10% (L+R), (L-R) : 400 Hz 45%	98 MHz	RT051	At the point of the FM stereo indicator turning on.	—

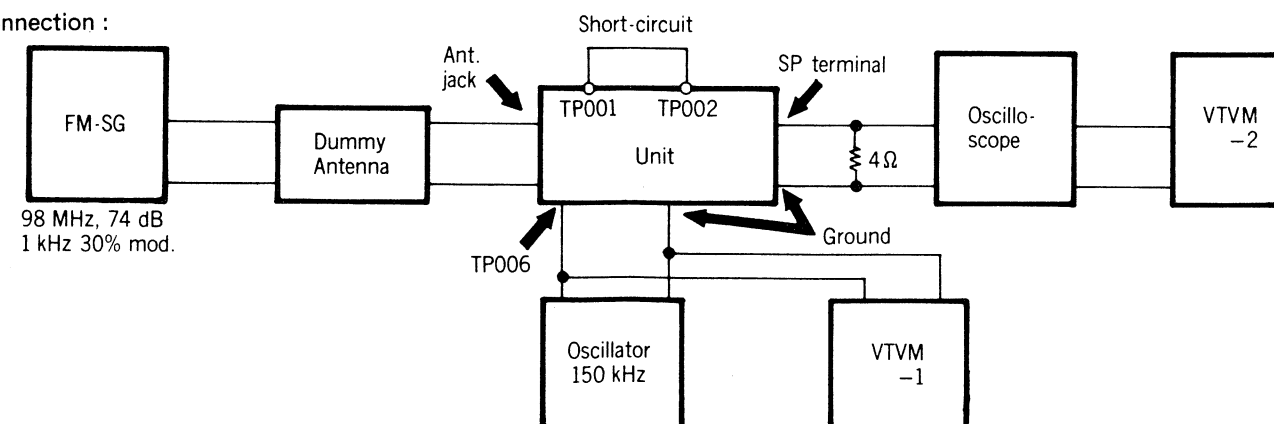
#### Pulse noise killer adjustment

Setting :

- Band change over switch (S602) : FM
- Treble control (RV401A, B) : Center

- Bass control (RV402A, B) : Center

Connection :



Adjustment :

1. Turn RT001 fully counterclockwise.
2. Feed a 98 MHz, 74 dB signal [1 kHz 30% modulation (22.5 kHz dev.)] in the antenna jack and tune the unit.
3. Short-circuit between TP001 and TP002.
4. Connect the oscillator and VTVM-1 between TP006 and the chassis ground as shown in the diagram. Feed a 150 kHz signal in this unit from the oscillator and set the oscillator output level to the 50mV±10mV VTVM-1 reading.

5. Turn the volume control (RV403A, B) for the 500mW output level at the speaker terminals.
6. Turn the semi-variable resistor RT001 clockwise gradually and adjust it to the point where the speaker output level drops abruptly.
7. When the above-mentioned adjustment is completed, disconnect the lead wire between TP001 and TP002.

#### Note :

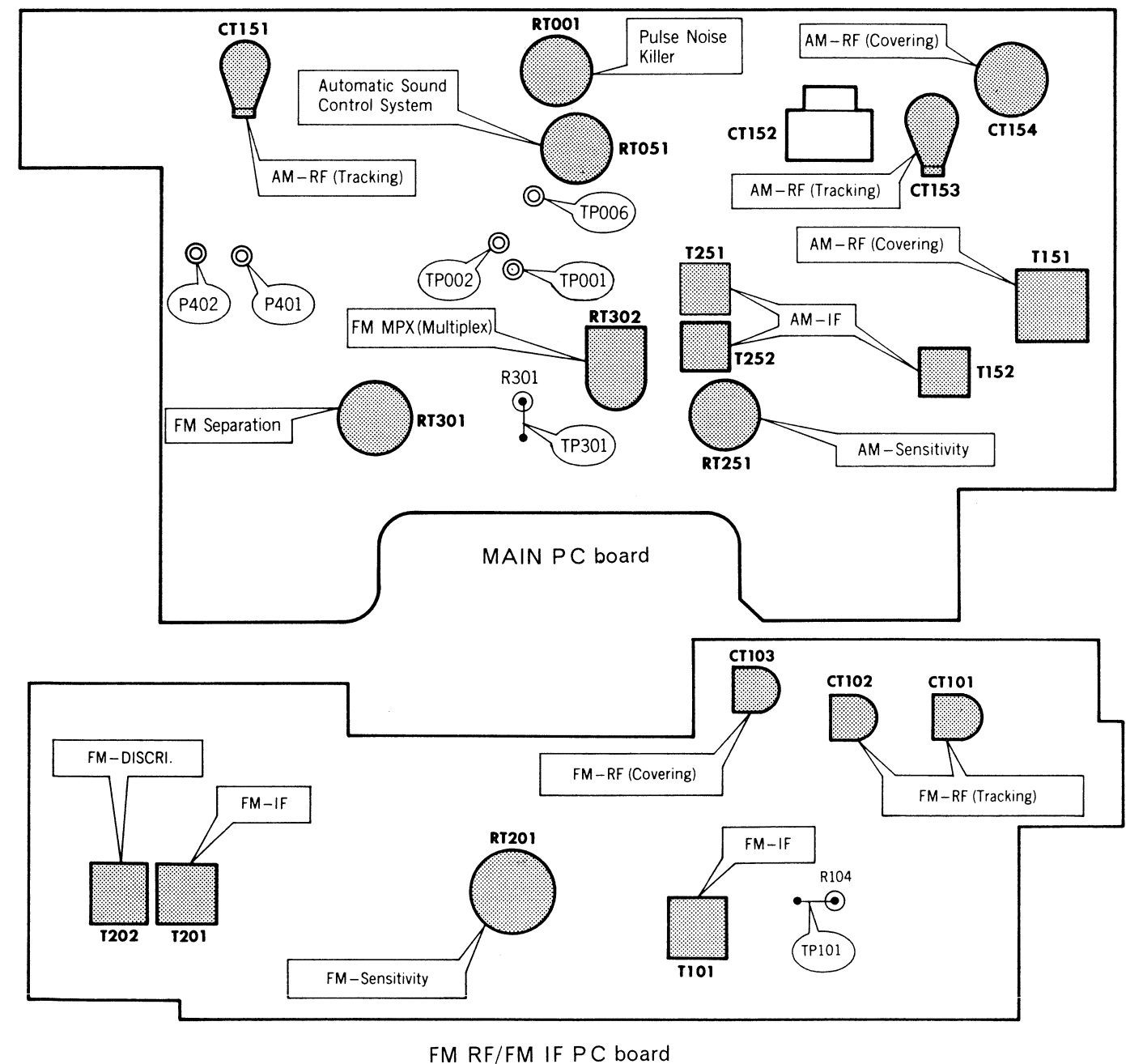
- \* When the output level of the speaker terminals does not increase up to 500mW in item 5, proceed following adjustment;

Decrease the output level of the 150 kHz oscillator and confirm that the VTVM-1 reading is more than 40mV when the output level of the speaker terminals becomes abruptly increase. (with RT001 fully counterclockwise).

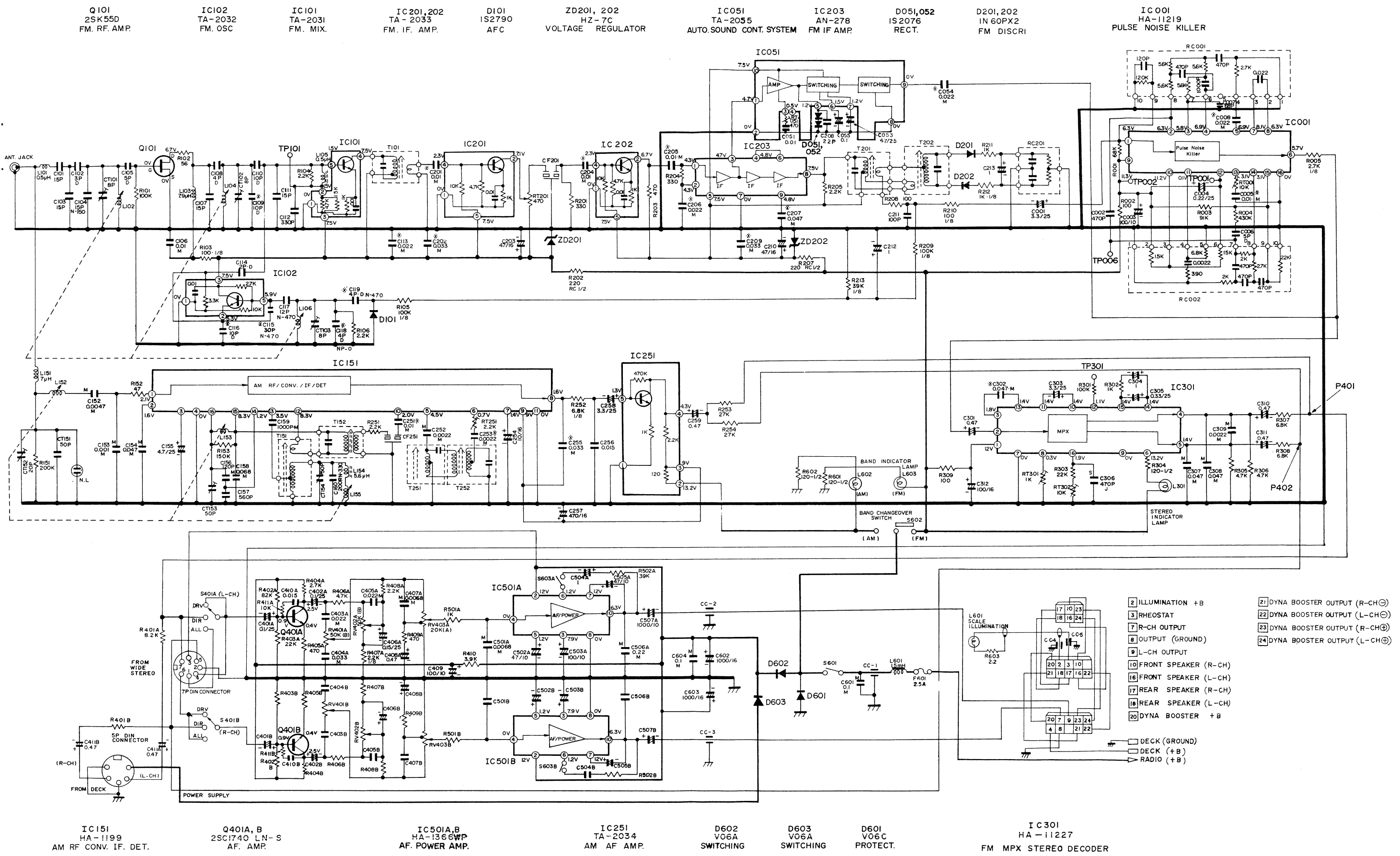
\*\* When the output level does not decrease even if RT001 is turned fully clockwise in item 6, proceed following adjustment ;

Increase the output level of 150kHz oscillator and confirm that the VTVM-1 reading is less than 60mV when the output level of the speaker terminals drops abruptly.

#### Adjustment Parts Location



SCHEMATIC DIAGRAM





# CIRCUIT BOARD DIAGRAM

Ground

Signal, +B

## Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

Circuit No.	
Value	No indicated $\Omega$ (Ohm) M : 1000 k $\Omega$
Tolerance	No indicated $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$
Wattage	No indicated $\frac{1}{4}W$
Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film

Circuit No.	
Value	No indicated $\mu F$ P : PF
Tolerance	No indicated $\pm 10\%$ J : $\pm 5\%$ M : $\pm 20\%$ Z : $\pm 80\%$ -20% D : $\pm 0.5pF$ C : $\pm 0.25pF$
Sort	Ceramic Electrolitic Mylar Polyester Styrol
Voltage	No indicated 50VV

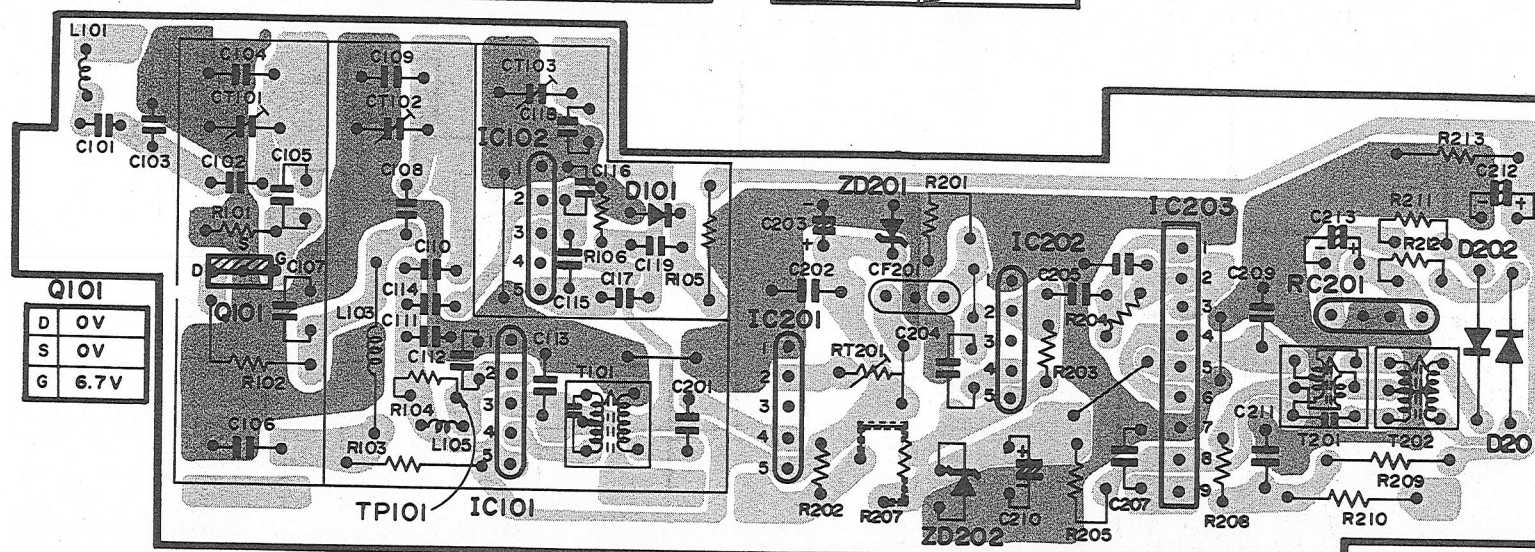
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with \*, use specified ones stated on parts list since required temperature characteristics.

IC 201	
1	0V
2	7.1V
3	—
4	2.3V
5	7.5V

IC 202	
1	0V
2	6.7V
3	—
4	2.3V
5	7.5V

IC 051A, B	
1	4.7V
2	0V
3	0.5V
4	0.5V
5	1.2V
6	1.5V
7	1.2V
8	0V
9	0V
10	7.5V

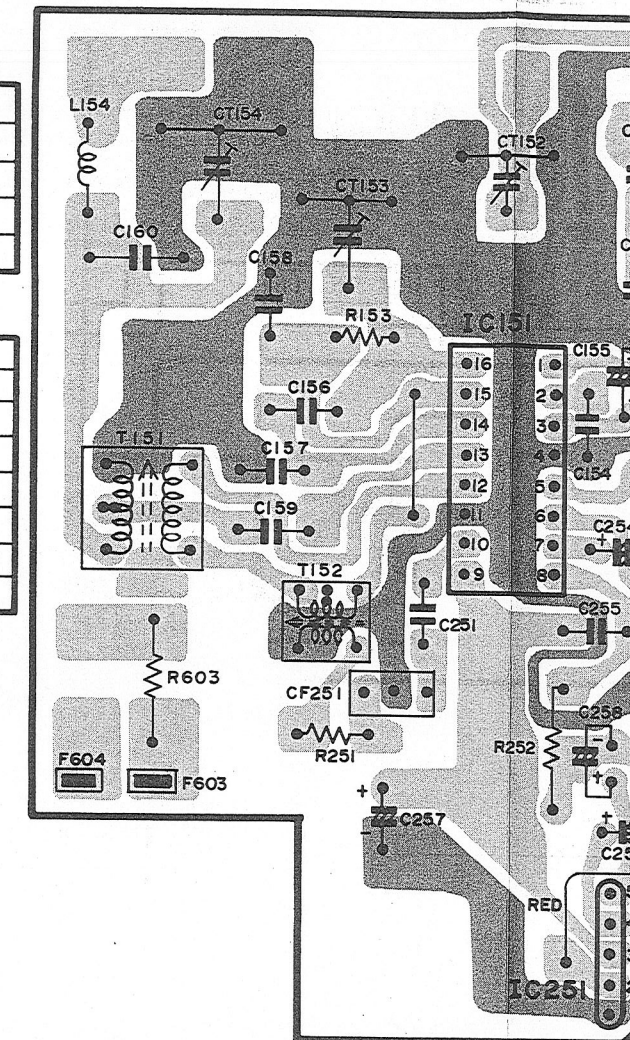
IC 151	
1	2.1V
2	1.6V
3	—
4	0V
5	4.5V
6	0.7V
7	1.4V
8	1.6V
9	9V
10	2.0V
11	0V
12	8.3V
13	3.5V
14	1.2V
15	8.3V
16	—



IC 102	
1	0V
2	5.3V
3	7.5V
4	—
5	5.9V

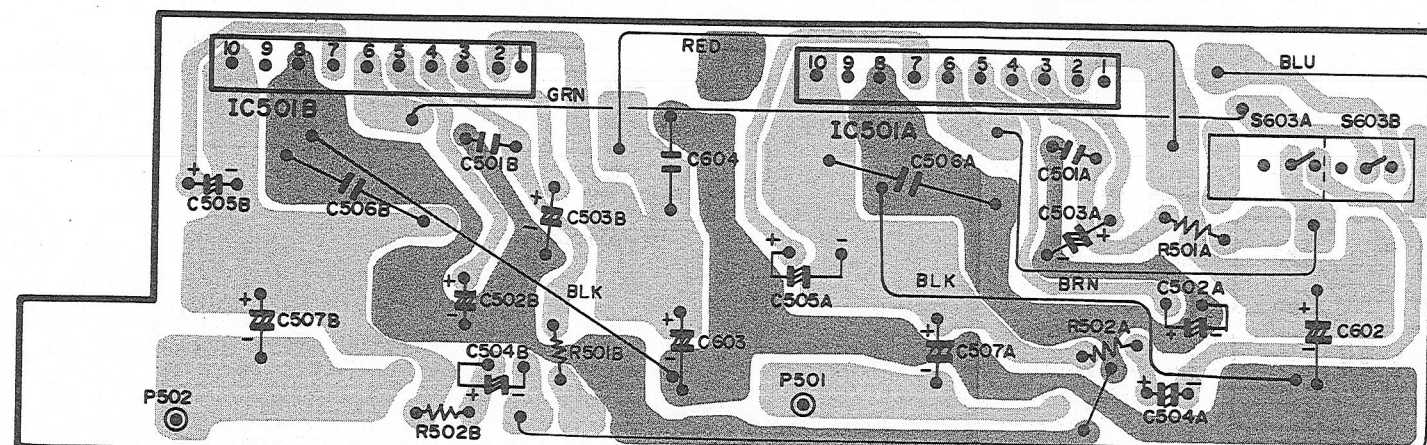
IC 101	
1	0V
2	1.5V
3	7.5V
4	7.5V
5	1.5V

IC 203	
1	4.3V
2	4.3V
3	4.7V
4	4.8V
5	7.5V
6	—
7	0V
8	7.5V
9	4.8V



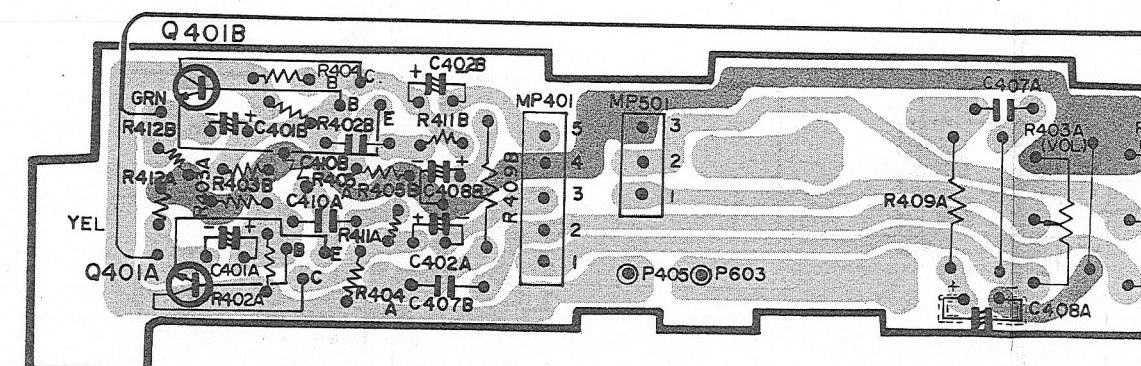
IC 501B	
1	—
2	12V
3	7.9V
4	0V
5	1.2V
6	1.2V
7	12V
8	0V
9	—
10	6.3V

IC 501A	
1	—
2	12V
3	7.9V
4	0V
5	1.2V
6	1.2V
7	12V
8	0V
9	—
10	6.3V



Q 401A	
B	0.9V
C	2.5V
E	0.4V

Q 401B	
B	0.9V
C	2.5V
E	0.4V

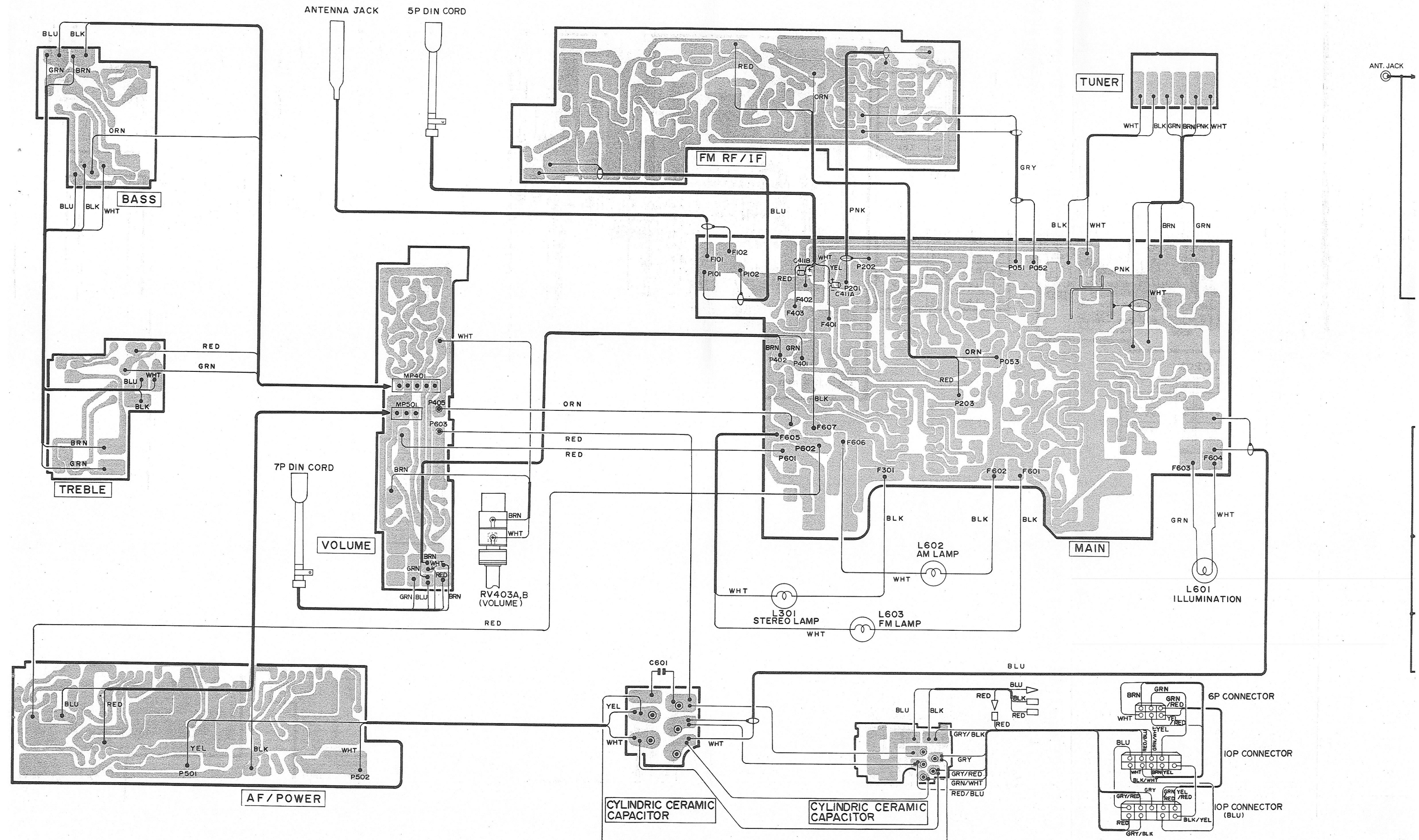




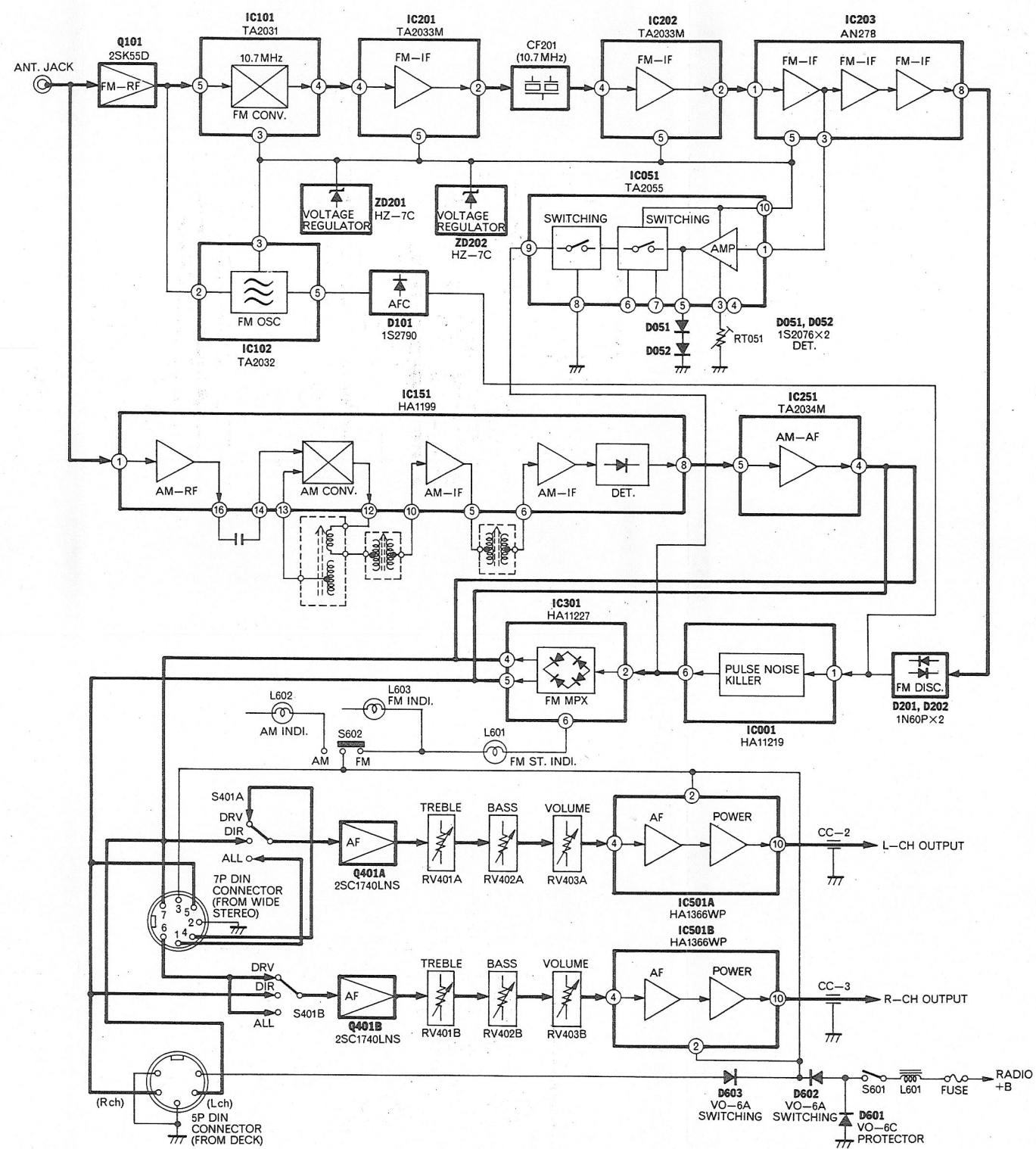
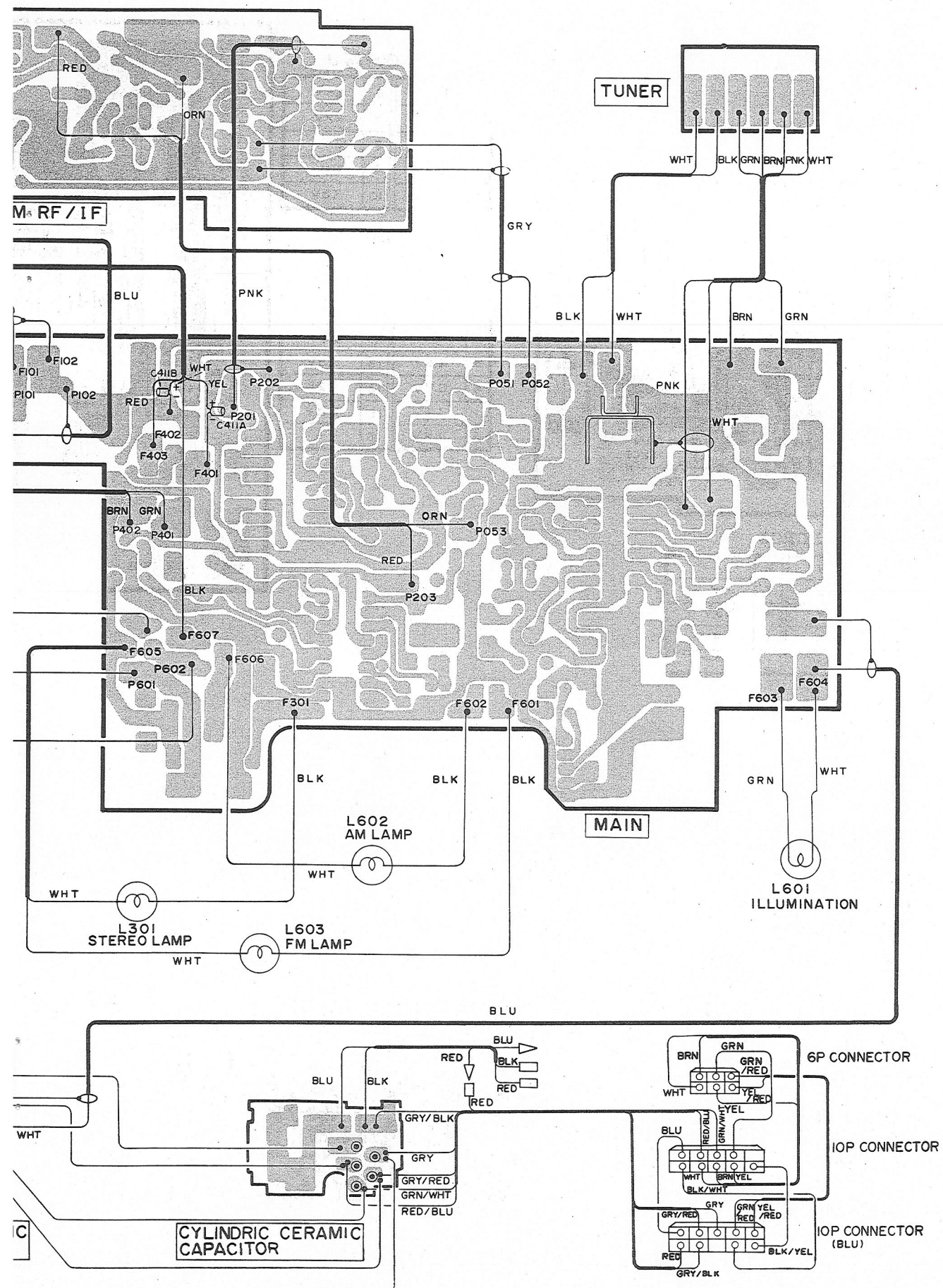




# WIRING DIAGRAM

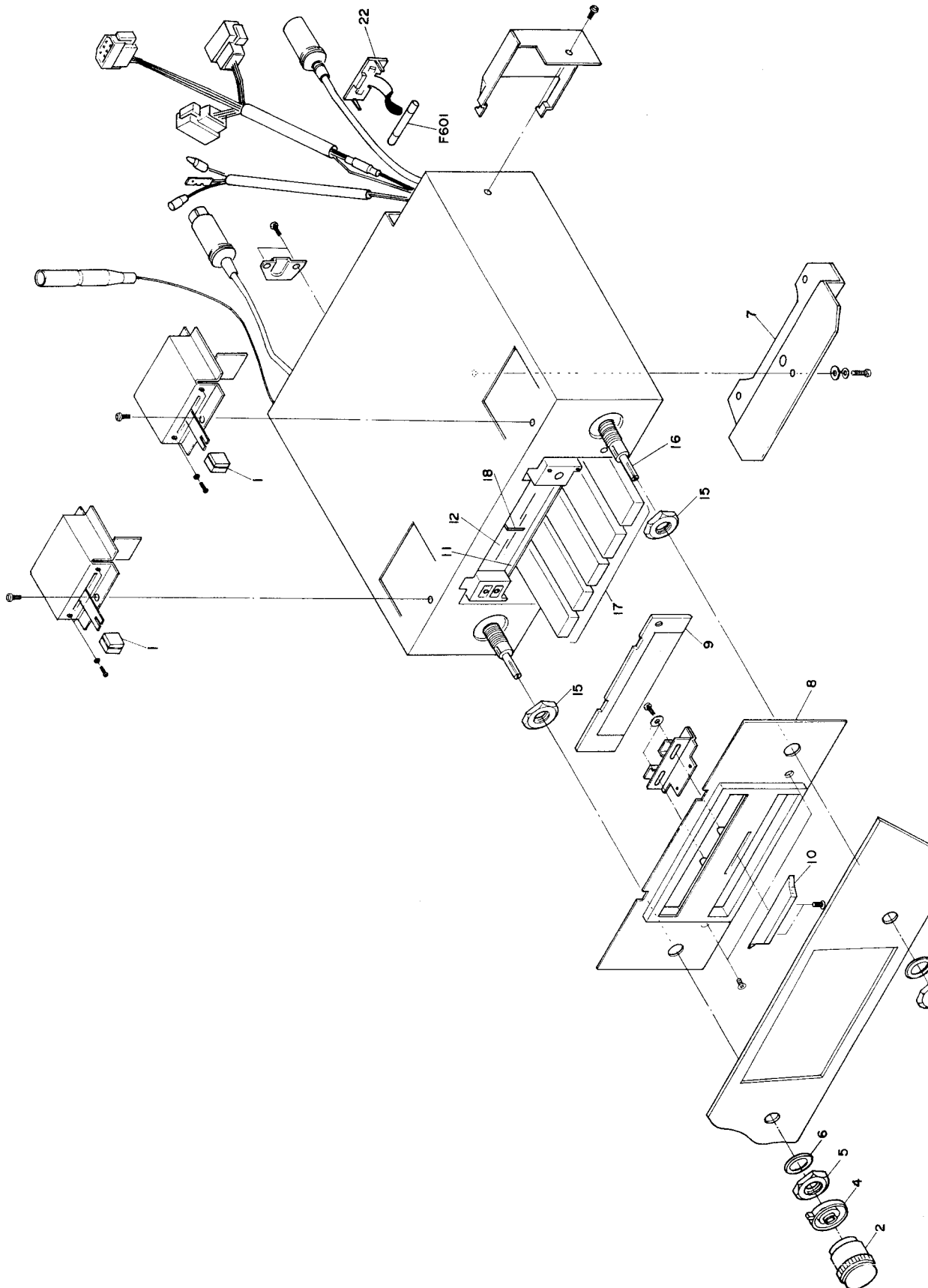








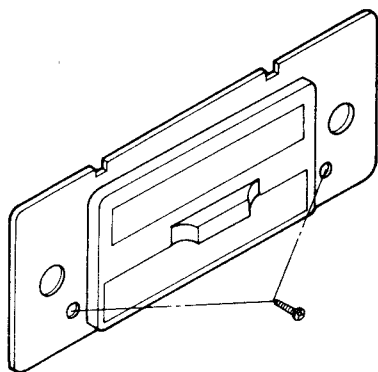
# EXPLODED VIEW



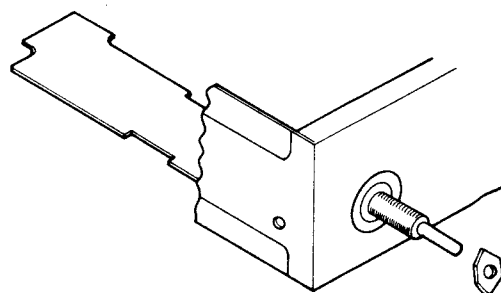
# REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CAPACITORS			IC202	5356782	IC TA2033
CT101-103	5058091	TRIMMER CAPACITOR 8PF	IC203	5351441	IC AN278
CT151	5058104	TRIMMER 50PF	IC251	5356792	IC TA2034
CT152	5058088	TRIMMER 20PF	IC301	5350683	IC HA11227
CT153	5058104	TRIMMER 50PF	IC501AB	5350554	IC HA1366W
CT154	0283104	TRIMMER CAPACITOR 50PF	Q101	5320943	TRANSISTOR 2SK55-D
C104	0246734	CERAMIC DISC. 15PF+-10% N-150	Q401AB	5321294	TRANSISTOR 2SC 1740 LN-S
C109	0246690	CERAMIC DISC. 10PF+-0.5PF	ZD201	5330313	DIODE 1.0M SILICON H27C
C115	0248341	CERAMIC DISC. 30PF+-5%	ZD202	5330313	DIODE 1.0M SILICON H27C
C116	0248320	CERAMIC DISC. 10PF+-5% (N-470)	TRANSFORMERS		
C117	0248372	CERAMIC DISC CAPACITOR 12PF +- 10%	T101	5140021	FM IF TRANSFORMER
C118	0246424	CERAMIC DISC. 4PF+-0.5PF	T151	0316099	OSCILLATOR COIL 200MH
C119	0248314	CERAMIC DISC. 4PF+-0.5PF (N-470)	T152	5130032	AM IF TRANSFORMER 20KOHM :
C160	0248201	CERAMIC DISC. 200PF 5%	T201	5148035	FM DISCRIMINATOR TRANSFORMER
RESISTORS			T202	5148034	FM IF TRANSFORMER
RC001	5068112	CR PACK	T251	5130152	AM IF TRANSFORMER
RC002	5068121	CR PACK	T252	5130151	AM IF TRANSFORMER
RC201	5065021	CR PACK	COILS		
RT001	5007186	SEMI VARIABLE RESISTOR 10KOHM	L101	5150141	TRAP COIL
RT051	5007182	SEMI VARIABLE RESISTOR 470OHM	L103	5150811	CHOKE COIL 7.9MICRO H
RT201	5007182	SEMI VARIABLE RESISTOR 470OHM	L105	5150141	TRAP COIL
RT251	5007184	SEMI VARIABLE RESISTOR 2.2KOHM	L151	5150067	CHOKE COIL 7 MICRO H
RT301	5007183	SEMI VARIABLE RESISTOR 1KOHM	L154	5152071	AM PADDING COIL 5.6MH
RT302	0151808	SEMI VARIABLE RESISTOR 10K OHM	L601	5220112	CHOKE COIL 1.5MH
RV401	5027024	VARIABLE 50KOHM(B)	MISCELLANEOUS		
RV402	5027024	VARIABLE 50KOHM(B)		5070551	CYLINDRIC CERAMIC CAPACITOR
RV403	5003351	VARIABLE 20KOHM(A)		5583495	5 BUTTON TUNER
SEMI-CONDUCTORS				5892266	DIN CORD
D051	5330131	DIODE 1S2076		5894872	POWER CORD
D052	5330131	DIODE 1S2076		5898281	7P DIN CORD
D101	5330661	DIODE SILICON LS2790 200MHZ 80MW		5898291	EP CONNECTOR
D201	5330732	DIODE GERMANIUM 1N60P 80MHZ 50MW	ANT,J	5675186	ANTENNA JACK
D202	5330732	DIODE GERMANIUM 1N60P 80MHZ 50MW	CF201	5160213	CERAMIC FILTER CF-107
D601	5330101	DIODE 15K SILICON V06C	CF251	5160081	CERAMIC FILTER 455KHZ
D602	5330104	DIODE 15K SILICON V06A	F601	5721151	FUSE 2.5A
D603	5330104	DIODE 15K SILICON V06A	NL	0594094	LAMP-NEON 100 V
IC001	5351381	IC HA11219	PL301	5762034	LAMP
IC051	5357961	IC TA2055	PL601	5760404	LAMP
IC101	5356761	IC TA2031	PL602	5762034	LAMP
IC102	5356771	IC TA2032	PL603	5762034	LAMP
IC151	5351161	IC HA1199	S602	5623572	SLIDE SWITCH
IC201	5356782	IC TA2033	S603	5623082	SLID SWITCH

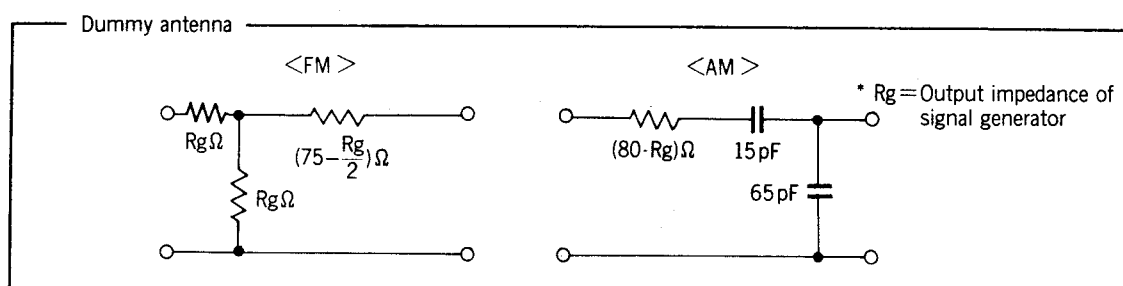
## 7. Escutcheon



## 8. Volume P.C. Board



## ADJUSTMENT

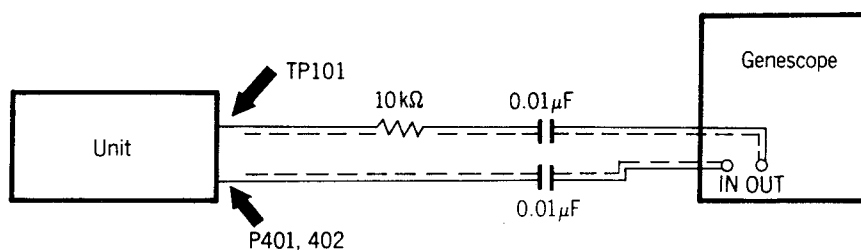


## FM IF adjustment

Setting :

- Band change over switch (S602) : FM
- FM sensitivity (RT201) : Center

Connection :



Adjustment :

Genescope	Dial pointer position	Adjust	Reading	Remarks
10.7 MHz	Highest	T202	—	Turn T202 fully clockwise.
		T101 T201		1) fc : Specified center frequency of the ceramic filter. 2) Reduce the level of the genescope to make one waveform.
		T202		Adjust T202 for a symmetrical sinewave (S curve) output.

## HITACHI PARTS ORDERING INFORMATION

To receive original replacement parts, please contact your nearest HITACHI Parts Distributor or contact Hitachi Central Parts Warehouse listed below. Be sure to indicate part catalog number, part description and model number (located on back of product).

### PANSON ELECTRONICS

28-14 Steinway St.  
Astoria, NY 11103  
Phone #212-545-8888

### LEADER ELECTRONIC SUPPLY CORP.

5 Evans Terminal Road Hillside,  
NJ 07205  
Phone #201-354-4200

### TEL-VIDEO CORPORATION

1921 N. Milwaukee Avenue  
Chicago, IL 60647  
Phone #312-235-6190

### HITACHI SALES CORPORATION OF AMERICA

Central Parts Warehouse  
401 W. Artesia Blvd.  
Compton, CA 90220  
Phone #213-537-8383

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To order HITACHI Service Manuals contact:

HITACHI SALES CORPORATION OF AMERICA  
Central Parts Warehouse  
401 W. Artesia Blvd.  
Compton, CA 90220  
Phone #213-537-8383

For information concerning repairs, operation or technique, please contact the Service Manager of the nearest Regional Office, Service Division listed:

**Southern Regional Office**  
510 Plaza Dr.  
College Park, GA 30349  
Phone #404-763-0360

**Mid-Western Regional Office**  
1600 Morse Avenue  
Elk Grove Village, IL 60007  
Phone #312-593-1550

**Eastern Regional Office**  
1200 Wall Street West  
Lyndhurst, NJ 07071  
Phone #201-935-8980

**Western Regional Office**  
401 W. Artesia Blvd.  
Compton, CA 90220  
Phone #213-537-8383



### HITACHI SALES CORPORATION OF AMERICA

#### Eastern Regional Office

1200 Wall Street West, Lyndhurst, New Jersey 07071  
Tel. 201-935-8980

#### Mid-Western Regional Office

1400 Morse Ave., Elk Grove Village, Ill. 60007  
Tel. 312-593-1550

#### Southern Regional Office

510 Plaza Drive College Park, Georgia 30349  
Tel. 404-763-0360

#### Western Regional Office

401 West Artesia Boulevard, Compton, California 90220  
Tel. 213-537-8383

### HITACHI SALES CORPORATION OF HAWAII, INC.

743-G Waiakamilo Rd., Honolulu, Hawaii 96817  
Tel. 808-841-0431